

Notes on Coleoptera—No. 2.

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The following are miscellaneous rearing records and observations made by the writer unless otherwise stated. Practically all of the rearing was done indoors and for that reason the dates of emergence are not given. Clark's Valley is located in the Blue Mountains north of Harrisburg, Pennsylvania, and runs east and west. The nearest postoffice is Dauphin.

CLERIDAE.

TILLUS TRANSVERSALIS Charp. The writer has a specimen of this species in his collection which was taken in New York City by Mr. George Moetz. Evidently the larva or adult was imported with a shipment of goods.

THANASIMUS TRIFASCIATUS Say. Larvae of this species were taken in numbers from the outer bark of large dead and dying white pines (*Pinus strobus*) in Clark's Valley on November 6th. All of the larvae collected had constructed ovoid pupal cells in the thick outer bark which was about 1½ inches thick. These cells which were nearly at right angles to the grain of the wood were lined with a light colored substance which resembled silk. Some of the cells were four feet from the ground while others were found six inches from the bases of the trees. The larvae were caged in the warm laboratory and the adults emerged early in the spring. These larvae did not seem to respond to warm indoor conditions as many other Coleoptera do and some of them remained in their pupal cells until the following spring. It is quite evident that the larvae pass the winter in the pupal cells and that most of the adults emerge in June and July, as shown by collection records.

The main food of these larvae consisted of *Tetropium velutinum* Lec. although the trees were also infested with *Acanthoderes obsoletus* Oliv., *Gnathotrichus materiatus* Fitch, *Orthotomicus caclatus* Eich., *Hylurgops pinifex* Fitch, *Dryocoetes americanus* Hopk., and *Dendroctonus valens* Lec.

HYDROCERA VERTICALIS Say. Adults were reared from dead linden (*Tilia americana*) branches infested with *Eupogonius pubescens* Lec. and *Grammoptera exigua* Newm. larvae, also from dead black oak branches (*Quercus velutina*) infested with larvae

of *Agrilus geminatus* Say. The material was collected in Clark's Valley.

ORTHOPLLEURA DAMICORNIS Fab. Reared from white oak (*Quercus alba*) infested with *Phymatodes acreus* Newm. collected in Clark's Valley.

ELATERIDAE.

LUDIUS SULCICOLLIS Say. Adults were reared from dead sour gum (*Nyssa sylvatica*) wood infested with *Leptura emarginata* Fab. and *Charisalia americana* Hald. collected at Hummelstown, Pennsylvania.

BUPRESTIDAE.

DICERCA LURIDA Fab. Was reared from a dead branch of a living linden (*Tilia americana*) collected in Clark's Valley.

XENORHIPIS BRENDALI Lec. This insect seems to be so rare that a capture is worthy of record. An adult male was collected on a dead black oak branch in Clark's Valley on July 21.

CHRYSOBOTHIRIS CHRYSOELA Illig. A living adult was chopped from a dead branch of persimmon (*Diospyros virginiana*) collected at Wallaceton, Virginia, on October 3.

C. OROXO Frost. Through the kindness of Mr. Frank Haimbach and Mr. J. A. G. Rehn, the writer had a chance to work over three specimens of this species in the Horn collection in the Pennsylvania Academy of Natural Sciences. The material is labeled as follows, one male and female from North Carolina and another female from Virginia. The writer also possesses a large female labeled Fresno Co., Tennessee, June 11. Mr. C. A. Frost kindly sent me the type for comparison and in all of the southern specimens the chitinized areas of the dorsal surface were more pronounced and they lacked the grayish-green color of the punctured areas which is quite marked in the type and allotype.

C. SENSIGNATA Say. Reared from dead post oak (*Quercus stellata*) branches collected in Clark's Valley.

EUPRISTOCERUS COGITANS Web. One adult was reared from dead river birch (*Betula nigra*) collected in Clark's Valley. This is an unusual record as this insect normally breeds in alder.

AGRILUS DEFECTUS Lec. Reared from dead post oak (*Quercus stellata*) branches collected in Clark's Valley.

A. ARCUATUS Say. Adults which resemble subspecies *fulgens* Lec. were reared from dead shadbush (*Amelanchier canadensis*) collected in Clark's Valley, the tree having been girdled by a beaver. The material was reared from the main trunk which was about three inches in diameter. The larvae had worked beneath the bark and pupated in the sapwood, which is quite unlike the typical girdling of this species.

A. OTIOSUS Say. Reared from small dead branches of black walnut (*Juglans nigra*) collected in Clark's Valley.

A. GEMINATUS Say. Adults were reared from the small dead branches of black oak (*Quercus velutina*) collected in Clark's Valley.

A. BETULAE Fisher. A large series of this species was reared from dead river birch (*Betula nigra*) collected in Clark's Valley. A considerable variation in size and color was observed, the length ranging from 5 mm. to 11 mm., and many of the specimens were bright cupreous throughout the dorsal surface.

CUCUJIDAE.

CATOGENUS RUFUS Fab. During the latter part of April a Cerambycid pupa was taken from a pupal cell in a dead pitch pine (*Pinus rigida*) tree at Hummelstown, Pennsylvania. This pupa was placed in a glass vial and in a couple of weeks a larva of *Catogenus rufus* Fab. emerged. The larva proceeded to devour the dead Cerambycid pupa and in the course of a week the entire pupa was consumed. The *Catogenus* larva pupated in the vial and later the perfect adult emerged. The fact that this species is an internal parasite might account for the great variation in the size of the adults.

ALLECULIDAE.

MYCETOCHARES BINOTATUS Say. Numerous adults reared from the dead wood of a living sour gum (*Nyssa sylvatica*) tree collected at Hummelstown, Pennsylvania.

MELANDRYIDAE.

SYNCHROA PUNCTATA Newm. Reared from dead poison ivy (*Rhus toxicodendron*) stems collected at Harrisburg, Pennsylvania, and from dead ironwood (*Ostrya virginiana*) taken at Laporte, Pennsylvania.

PROTHALPIA UNDATA Lec. This species was recorded erroneously as (*Mystarus simulator* Newn.) in the *Canadian Entomologist** as breeding in *Viburnum dentatum* and ninebark (*Opulaster opulifolius*). The species was determined as *Prothalpia undata* Lec. by Mr. Ralph Hopping. The two species resemble each other superficially.

SCARABAEIDAE.

OCHROSIDIA VILLOSA Burm. This species was found breeding in a large lawn about two acres in extent near Middletown, Pennsylvania. The larvae had eaten the roots of the grass and in this way killed the plants. The blades of the grass had turned brown and could be raked up in large quantities.

CERAMBYCIDAE.

HYPERMALLUS VILLOSUS Fab. Reared from dead yellow wood (*Cladrastis lutea*) branch collected at Philadelphia, Pennsylvania, by Mr. Floyd Smith and from a dead linden (*Tilia americana*) branch collected in Clark's Valley by the writer.

ELAPHIDION mucronatum Say. Reared from dead sweet fern (*Myrica asplenifolia*) stem collected in Clark's Valley.

GRAMMOPTERA EXIGUA Newn. Adults were reared from dead linden (*Tilia americana*) branches collected in Clark's Valley. The larvae did not enter the sapwood but worked between the bark and wood as stated by Craighead.†

CHARISALIA AMERICANA Hald. This species was found breeding in the dead decayed wood on the inside of a hollow sour gum (*Nyssa sylvatica*) at Hummelstown, Pennsylvania, by Mr. H. B. Kirk and the writer.

LEPTURA ABDOMINALIS Hald. The males of this species are usually black, but a male was reared from dead cypress (*Taxodium distichum*) collected at Cape Henry, Virginia, which had legs, head, thorax, scutellum, suture of elytra, humeral angles and an oblique band across apices of elytra black; the rest of the elytra was testaceous including a very small spot on the vertex of head. A female was reared which had the usual bi-colored legs in this sex, two very small black spots on pronotum, the rest of both dorsal and ventral surfaces was testaceous.

*A. B. Champlain and J. N. Knull, *Can. Ent.* V. 57, p. 114; 1925.

†F. C. Craighead—*Dom. Can. Agl. Bul.* 27, p. 96; 1923.

The species had a high percentage of parasitism by a species of Bethyloid determined by Mr. Rohwer as *Sclerodermus macrogaster* Ashm. The adults are wingless and follow the burrows of the larvae.

(To be continued)

Cleveland Museum Entomological Expedition.

Dr. George P. Englehardt, Director of Natural Sciences in the Brooklyn Museum, and Mr. John C. Pallister, Entomologist of the Cleveland Museum of Natural History, are making a brief trip into Central America in search of materials for entomological groups for the Cleveland Museum. They are the guests of Mr. M. F. Bramley, of Cleveland, who is making the trip in the yacht "Peary", which was used by MacMillan and Byrd in their Arctic Expedition in 1925. The party sailed from Long Beach, California, February 1. Before going to Guatemala they will spend a few days on the uninhabited island of Socorro.

Entomological Literature

COMPILED BY FRANK HAIMBACH AND LAURA S. MACKAY
UNDER THE SUPERVISION OF E. T. CRESSON, JR.

Under the above head it is intended to note papers received at the Academy of Natural Sciences, of Philadelphia, pertaining to the Entomology of the Americas (North and South), including Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species will be recorded.


The numbers **within brackets** [] refer to the journals, as numbered in the list of Periodicals and Serials published in the January and June numbers (or which may be secured from the publisher of Entomological News for 10c), in which the paper appeared. The number of, or annual volume, and in some cases the part, heft, &c. the latter **within** () follows; then the pagination follows the **colon** :

All continued papers, with few exceptions, are recorded only at their first installments.

*Papers containing new forms or names have an * preceding the author's name.

(S) Papers pertaining exclusively to neotropical species, and not so indicated in the title, have the symbol (S) at the end of the title of the paper.

For records of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington. Also Review of Applied Entomology, Series A, London. For records of papers on Medical Entomology, see Review of Applied Entomology, Series B.

 Note the change in the method of citing the bibliographical references, as explained above.

Papers published in the Entomological News are not listed.

GENERAL.—Barnes, H. F.—Gall midges (Cecidomyiidae) as enemies of aphids. [22] 20: 433-442. Beling, I.—Ueber das zeitgedächtnis der bienen. [88] 18: 63-67, ill. Bodkin, G. E.—A note on the utility of aerial photography in entomological field work. [22] 20: 431, ill. Carpenter, G. H.—Insects their structure and life. 335pp., ill. Dunkerly, J. S.—A note on parasites and the natural selection the-